IN THE CLAIMS:

Please rewrite the pending claims as follows:

1. (currently amended) A method for determining the center of rotation of a first femur [[bone]] in a revolute joint of an iliac bone, ~~characterized in that it includes~~ comprising the steps of:

displacing said first femur [[bone]], locating several ones of [[its]] said first femur's positions, and memorizing [[them]] said positions,

imposing a constraint to the displacement of said center of rotation of said first femur without immobilizing [[it]] said first femur, and

searching a point linked to [[the]] a referential of said first femur [[bone]] for which an optimization criterion taking into account said constraint is reached.

2. (currently amended) The method for determining the center of rotation of a first femur with respect to the iliac bone of claim 1, ~~characterized in that it includes~~ further comprising the steps of:

immobilizing the second femur,

displacing the first femur and locating several ones of [[its]] said first femur's positions,

searching [[the]] invariants of this displacement, taking into account the fact that the center of rotations of the first and second femurs are distant by a substantially constant length.

3. (currently amended) The method of claim 2, ~~characterized in that it further includes~~ further comprising the step of locating, ~~upon each measurement~~ for each of the several positions of the first femur, the position of the second femur to accordingly correct the position of the center of rotation between the first femur and the iliac bone.

4. (currently amended) The method for determining the center of rotation of a femur with respect to the iliac bone of claim 1, ~~characterized in that it includes~~ further comprising the steps of:

displacing the thigh so that said center of rotation moves along a trajectory which is clearly mathematically distinct from all other points of the lower femur portion,

searching ~~this point~~ the center of rotation having a specific trajectory by an optimization method.

5. (currently amended) The method of claim 4, ~~characterized in that~~ further comprising the thigh is moved so that the knee follows a loop trajectory, whereby only the trajectory of the center of rotation will optimize a distance in the expression of which the number of loops and some of their mathematical characteristics will be involved.

6. (currently amended) The method for determining [[a]] the center of rotation of a femur with respect to the iliac bone of claim 4, ~~characterized in that~~ further comprising:

decomposing the thigh motion ~~can be decomposed~~ in several elementary motions,

for each elementary motion, an optimal center of rotation and an optimized distance value are calculated,

statistically defining the center of rotation ~~is statistically defined~~, taking into account each of the ~~estimations of the~~ calculated center of rotation and [[of]] the optimized distance value, obtained based on each of the elementary motions.

7. (currently amended) The method for determining the center of rotation of a femur with respect to the iliac bone of claim 1, ~~characterized in that it includes~~ further comprising the steps of:

moving the thigh so that [[its]] the thigh's lower portion describes as simple a trajectory as possible, including, ~~in particular, no loops,~~ so that the searched center of rotation describes a mathematically simple trajectory, and

searching ~~this point~~ the center of rotation with a mathematically simple trajectory by an optimization method.

8. (currently amended) The method of claim 7, ~~characterized in that~~ further comprising:

decomposing the thigh motion ~~can be decomposed~~ in several elementary motions,

for each elementary motion, an optimal center of rotation and the value of [[the]] an optimized distance are calculated,

the center of rotation is statistically defined, by taking into account each of the calculated ~~estimations of the~~ center of rotation and [[of]] the value of the optimized distance, obtained based on each of the elementary motions.

9. (currently amended) The method for determining the center of rotation of a femur with respect to the iliac bone of claim 1, ~~characterized in that it includes~~ further comprising the steps of:

performing a succession of elementary motions of the thigh,

for each of these motions, searching the position of the center of rotation of the femur, assuming that said femur has remained fixed, and determining a confidence ellipsoid within which the probability of presence of the femur center of rotation is high, and

calculating based on the confidence ellipsoids the position of maximum probability of the femur center of rotation.

10. (currently amended) The method of claim 9, ~~characterized in that~~ wherein some of the elementary motions of the thigh are performed in a plane and are of small amplitude.

11. (currently amended) The method of claim 9, ~~characterized in that~~ wherein some of the elementary motions of the thigh are performed by rotating the femur around [[its]] the femur's own axis.

12. (currently amended) A device for determining the center of rotation of a femur with respect to the iliac bone, ~~characterized in that it includes~~ further comprising:

means for locating several positions of the femur during motions thereof,

means for imposing a constraint to the motion of said center of rotation without ~~for all this~~ immobilizing [[it]] the femur, and

calculation means for searching a point linked to [[the]] a referential of said femur for which a minimization criterion is reached, taking said constraint into account.